PROJECT DESCRIPTION

I. GENERAL

This portion of the project involves the reconstruction of the existing traffic control signal at the intersection of MD 589 and Manklin Creek Road in Worcester County, Maryland. MD 589 is considered to run in a north/south direction.

II. INTERSECTION OPERATION

The intersection is to continue to operate in a NEMA four (4) phase, full-traffic-actuated mode. During the first phases of roadway reconstruction.

A new eight phase, full-traffic-actuated, solid state digital controller with intersection monitor and harness, battery back-up, telemerty equipment, video detection equipment, and one (1) - four-channel rack mounted time delay output loop detector amplifiers housed in a base mounted cabinet are to be installed at this location.

III. SPECIAL NOTE:

The Contractor shall notify Mr. Robert Snyder of SHA at 410-787-7635 to arrange for the phone drop installation.

The Contractor is to provide Mr. Snyder with the nearest street number, zip code, and telephone number.

CONTACT LIST

The contact persons for District #1 are as follows:

Mr. Gene Cofield
Assistant District Engineer - Traffic
410-543-6715

Mr. Bruce Poole
Assistant District Engineer - Utility
410-677-4082

Mr. James Wright
Assistant District Engineer - Maintenance
410-543-6715

Mr. Richard L. Daff
Chief, Traffic Operations Division
410-787-7630

The Power Company Representative is:
Choptank Electric
Robert H. Jump, Jr.
410-479-0420 Ext. 3223

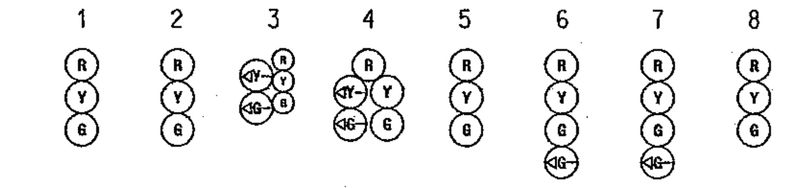
EQUIPMENT LIST

Equipment to be furnished and installed by the Contractor.
All equipment in this list shall have catalog cuts submitted for approval prior to installation.

Quantity	Units	Specification Section	Description
Lump Sum	LS	108	Mobilization.
Lump Sum	LS	104	Maintenance of traffic.
1	EA	818	27 ft. steel mast arm pole with a 50 ft. mast arm
3	EA	818	27 ft. steel mast arm pole with a 70 ft. mast arm
1	EA	816	Standard S.H.A. traffic signal controller, base mounted cabinet, one (1) four-channel loop detector amplifier, video detection equipment, and telemetry equipment [Note: Controller and cabinet shall be purchased from Econolite and delivered to the S.H.A. signal shop for wiring and testing. Contact Mr. Ed Rodenhizer (410) 787-7650].
2	EA	---	Video Detector with Manufacture Recomended Cables 1- 250 LF 1- 400 LF
4	EA	814	12 in., one-way, three section (R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
2	EA	814	12 in., one-way, four section (R,Y,G,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in., one-way, five section (R,Y,YA,G,GA) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	814	12 in./8 in., one-way, five section (12 in. YA, GA/ 8 in. R,Y,G) adjustable black faced traffic signal head with mast arm mounting hardware and tunnel visors.
1	EA	813	30 in. x 36 in. R 3-5(L) sign with mast arm mounting hardware.
1	EA	813	36 in. x 42 in. R 10-12 sign with mast arm mounting hardware.
3	EA	813	16 in. x Var. (Dual Faced) D-3(1) with mast arm mounting hardware.
1	EA	813	30 in. x 51 in. Shield Assembly with pole mounting hardware.
1	EA	813	48 in. x 75 in. Shield Assembly with pole mounting hardware.
2	EA	806	20 ft. luminaire arm.
2	EA	806	250 W H.P.S. lamp and luminarie.

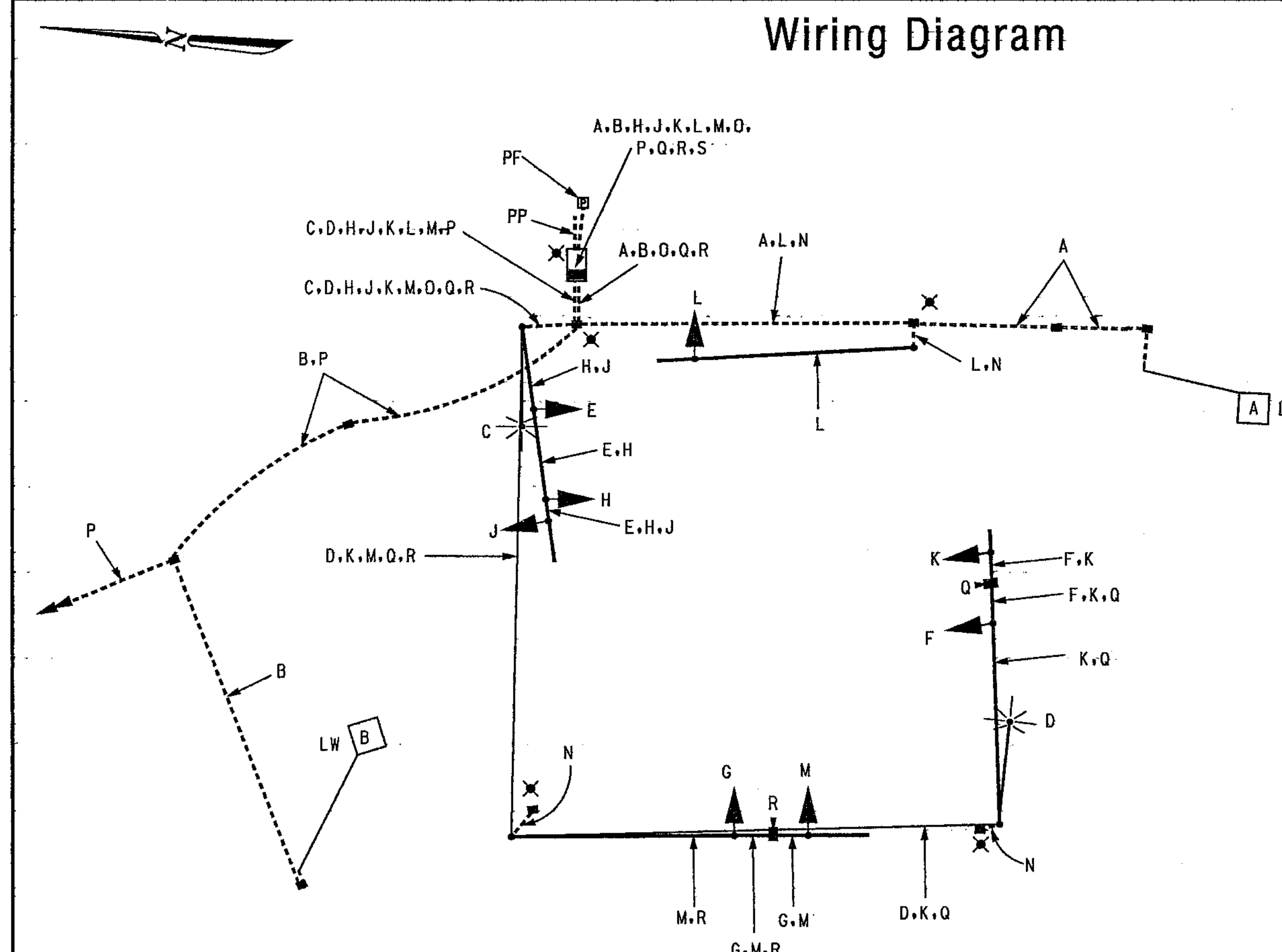
Quantity	Units	Specification Section	Description
5	CY	205	Test pit excavation.
10	EA	811	Handhole.
125	LF	815	Sawcut for signal loop detector.
325	LF	810	Loop detector wire (No. 14 A.W.G.) encased in flexible tubing.
90	LF	810	I-conductor electrical cable (No. 4 A.W.G.) (3 pieces).
900	LF	810	2-conductor (aluminum shielded) electrical cable (No. 14 A.W.G.).
375	LF	810	2-conductor electrical tray cable (No. 12 A.W.G.).
120	LF	810	5-conductor electrical cable (No. 14 A.W.G.).
1000	LF	810	7-conductor electrical cable (No. 14 A.W.G.).
175	LF	804	Bare copper stranded ground wire (No. 6 A.W.G.).
260	LF	819	3/8 in. steel span wire.
10	LF	805	1 in. liquid tight flexible non-metallic conduit for loop detector sleeve.
15	LF	805	1 in. galvanized steel conduit for loop detector sleeve.
725	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
70	LF	805	3 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
20	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - trenched.
210	LF	805	4 in. polyvinyl chloride [Schedule 80] electrical conduit - bored.
3	EA	805	3 in. weatherhead.
22	CY	801	Concrete foundation for traffic signal equipment.
5	EA	804	Ground rod -3/4 in. diameter x 10 ft. length.
1	EA	807	Electrical utility service equipment (120/240 V, one phase, three wire system) for an underground electrical power service as per MD-SHA Typical No. 807.05-01.
2	EA	---	Temporary Back Guy
1	EA	---	Remove and dispose of existing concrete foundation 12 inches below grade.
Lump Sum	LS	---	Relocated existing interconnect cable.
Lump Sum	LS	---	Remove and dispose of existing signal equipment.

Phase Chart



	1	2	3	4	5	6	7	8	
Phase 2 & 5	R	R	G ←G	G ←G	G	R	R	R	
5 Change	R	R	G ←Y	G ←Y	G	R	R	R	
Phase 2 & 6	G	G	G	G	G	R	R	R	
2 & 6 Change	Y	Y	Y	Y	Y	R	R	R	
Phase 4	R	R	R	R	R	G ←G	G ←G	G	
4 Change	R	R	R	R	R	Y	Y	Y	
Flashing Operation	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	

Wiring Diagram



A, B — 2-Conductor Cable (Aluminum Shielded)

C, D — 2-Conductor Tray Cable (No. 12 A.W.G.)

E, F, G — 5-Conductor Electrical Cable (No. 14 A.W.G.)

H, J, K, L, M — 7-Conductor Electrical Cable (No. 14 A.W.G.)

N, O — Bare Copper Ground Wire (No. 6 A.W.G.)

P — Existing Interconnect Cable (Cathell Rd - Manklin Creek Rd Run)

Q, R — Video Detector Cable

S — 1-Conductor (No. 4 A.W.G.) (3 pieces) for Traffic Signal Electrical Service

✕ — Proposed Grounding Rod

LW — Loop Detector Wire (No. 14 A.W.G.) in Flexible Tubing

PF — Proposed Electrical Service By Choptank Electric (To be determined in the field)

PP — Proposed Underground Electrical Telephone Service By Verizon (To be determined in the field)

Red-Line Revision 1

MDOT - SHA
O.O.T.S.

S.H.A. Approval — Date 5-18-05

Red-Line Revision 1 05-13-05

MOT- Phase 1 & 2

The Traffic Group
The Traffic Group, Inc.
410-931-6600
Fax 410-931-6601

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION
(General Information Plan)

MD 589 (Race Track Road) at Manklin Creek Road

DRAWN BY:	J. Dirndorfer	F.A.P. NO.	N/A	TS NO. 2406A-X1	SHEET NO.
CHECKED BY:		S.H.A. NO.	BW996M82		
SCALE:	N/A	COUNTY:	Worcester	T.I.M.S. NO. G220	
DATE:	May 13, 2005	LOG MILE:	23058902.12		2 OF 4

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